BAY BRIDGE NEWS
We're making history.
CALTRANS BAY AREA TOLL AUTHORITY CALIFORNIA TRANSPORTATION COMMISSION
The Newsletter of the San Francisco-Oakland Bay Bridge *VISIT OUR WEBSITE: WWW.BAYBRIDGEINFO.ORG* *JANUARY 2007, ISSUE 2*

MORE MAJOR MILESTONES REACHED ON THE BAY BRIDGE

Three Weddings and a Ballgame: A Labor Day Weekend Success Story

At 4:15 a.m. on Tuesday, September 5, the eastbound lower deck of the Bay Bridge reopened after a 77-hour closure during Labor Day weekend. The lifting of the first safety cone on the lower deck, 45 minutes ahead of schedule, marked a major project milestone: the completion of the third and most challenging phase of seismic safety demolition work on the West Approach.

The West Approach refers to a one-mile stretch of I-80 freeway connecting San Francisco to the bridge. When the West Approach project is completed in 2009, this one-mile section of freeway and two on- and three off-ramps will have been completely removed and replaced with seismically sound structures through a monumental "retrofit-by-replacement." The double-deck roadways from Fifth Street to the anchorage will also have been rebuilt so that each deck will have independent columns and foundations.

Perhaps the greatest challenge of this six-year, $429 million project is accommodating the daily flow of 280,000 vehicles across the bridge. No less significant is the task of performing this work in a densely populated urban area, delineated by Fifth Street and the San Francisco anchorage at Beale Street.

In order to help keep traffic flowing, this work requires elaborate staging: a temporary structure is built and vehicles are rerouted to it. The old structure is then removed and work begins on the new structure. When the new structure is completed, vehicles are again rerouted and the old structure is demolished.

"The work we are doing on the West Approach is like putting together a 10,000-piece puzzle; it requires a unique collaboration of design, construction, structural, and traffic engineers," said West Approach Project Manager Ken Terpstra.

Staged Demolition

The first major phase of demolition work, requiring a series of deck closures and detours, occurred over five weekends in the fall of 2005. This work required extensive coordination and significant public outreach.

The next phase of major demolition work occurred on a weekend the following June, when the bridge's lower deck was closed for two nights to remove a section of I-80. This work required a traffic split westbound near the Fremont Street off-ramp. The Fifth Street off-ramp was also permanently relocated a half mile west of its original location.

Labor Day Weekend

These two phases served, in essence, as "dry runs" for the last and most extensive phase of demolition work. Caltrans and contractor Tutor-Saliba successfully demolished a 1,000-foot section (10,000 cubic yards or 20,250 tons!) of steel and concrete from the San Francisco anchorage west to the former Harrison Street off-ramp on the approach's upper deck.

This ambitious phase of work was originally slated to occur over six to nine weekends. A calculated decision was made to consolidate this herculean task into the three-day Labor Day weekend to minimize impacts to motorists and project neighbors.

Caltrans District 4 Photography

The team had just five weeks to plan. Numerous challenges lay ahead, including the mobilizing and staging of work crews and equipment within tight confines. They planned for dust abatement and the processing and removal of thousands of tons of debris. Safety and risk issues posed by working close to moving traffic and equipment were addressed. A public transit plan was also developed, providing limited access to the lower deck during demolition.

We Finished The Job!

The lower deck closed at 11:59 p.m. on September 1—allowing enough time for 49ers fans, who had been reminded about the closures through intermission announcements, to safely cross the bridge after the game.

To perform this enormous volume of work

NOT YOUR TYPICAL WEEKEND PROJECT...

Demolition of 1,000 feet of elevated roadway over Labor Day weekend was completed 45 minutes ahead of schedule.

(continued)

A Labor Day Weekend Success Story (continued)

in just three days required the brute force mobilization of over 250 workers, laboring around the clock; the amassing of nearly 100 pieces of construction equipment from all over the country; and an ambitious public outreach campaign. It required weeks of coordination with a multitude of agencies, including the California Highway Patrol, Bay Area Rapid Transit (BART), ferry and bus services, and 511, as well as with emergency response units, the City and County of San Francisco (CCSF) Department of Parking and Traffic, the San Francisco Police Department, and numerous other CCSF agencies.

Photo: Preston Nguyen / Caltrans

DEMOLITION DERBY...

Demolishing 1,000 feet of steel and concrete west of the San Francisco anchorage... under a very tight deadline.

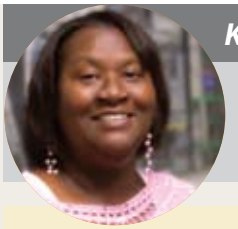
From a command center in San Francisco, the West Approach team worked closely with representatives from public transit and emergency service agencies to monitor traffic flows and to implement real-time changes to traffic management. 511 offered extensive trip planning and traffic updates. BART provided 24-hour service at select stations, and ferry service was expanded. Changeable message signs on regional roads announced the upcoming closures in advance and provided real-time traffic alerts throughout the weekend.

When traffic problems occurred, the Traffic Management System, with sensors in 13 counties throughout the state, allowed Caltrans to quickly redirect vehicles in congested areas.

One of the many challenges faced by Caltrans was providing public transit access to the bridge. Caltrans coordinated with the contractor and the San Francisco Municipal Railway (MUNI), AC Transit, and other transit agencies to come up with a plan. Throughout the weekend, a path was cleared periodically to allow eastbound public transit vehicles to pass.

...and about those weddings

Thanks to careful planning and cooperation, three wedding parties and their guests joined the eastbound public transit caravans through the work site. The couples were able to take their wedding vows on Treasure Island as planned, while Caltrans completed a major phase of seismic safety work ahead of schedule!



Keeping the Neighbors Informed

Margena Wade

Caltrans Public Information Officer

AS THE PUBLIC INFORMATION OFFICER FOR THE WEST APPROACH, Margena Wade keeps San Francisco's South of Market neighborhood up-to-speed on the West Approach seismic safety work. Some of the most intense demolition and construction work occurs within arm's reach of apartments and businesses.

Forging strong relationships with hundreds of thousands of stakeholders along the I-80 corridor has therefore been key. "It was necessary to create strong ties with the surrounding communities—to hear their concerns and to address them," said West Approach Project Manager Ken Terpstra.

Joining the West Approach team in 2003, Margena went door-to-door along the entire corridor, meeting with neighbors who might be affected by the work. She was greeted with both interest and apprehension.

It has been a gradual process, but in the three-and-a-half years since she first came on board, Margena has developed a higher comfort level among project neighbors. "They trust that I will give them reliable information as quickly as I can," she said. Towards this end, Margena has organized numerous community meetings, distributed informational fliers, and responded to countless phone calls—often serving as a troubleshooter. "If I get a call at 2:30 a.m. about a problem, I will call the night shift and ask them to look into it," she said. "Twenty minutes later I will get a call back from the resident. This time, it's to thank me."

Margena and the West Approach team have put a human face on the project by keeping neighbors informed and by responding quickly to the public's questions and concerns. "They have given us their construction plans," said MDC Property Manager Krissy Kunkle, who manages three buildings on Stillman Street, adjacent to the work site. "If there wasn't this relationship," said Krissy, "we would not necessarily have been as patient with construction."

The Labor Day weekend closures were Margena's biggest public outreach challenge yet. Assembling a team of over 50 people from community-based organizations, Margena sent them fanning out in all directions, by foot and by van, to let people know about the closures. Her troops distributed nearly one million informational flyers by hand and by mail, locally and throughout the state, to hotels and hospitals, taxi and shuttle services, chambers of commerce, and tourism offices. Even funeral homes were informed of the upcoming work. Her teams also served as "town criers" at local and regional airports, informing incoming passengers of the closures.

Even after the work was completed, Margena's outreach continued. "We went door-to-door along Bryant Street," she said, "just to find out how everyone was getting along…"

Margena's efforts were key to helping neighbors, motorists, visitors, and the general public plan ahead for the Labor Day closure.

When she is not fielding phone calls, Margena is completing a degree in construction management. She also performs in several gospel choirs and serves as the talent coordinator for the Faith Network, which provides a wide range of after-school volunteer programs at 25 public schools in Oakland.

A Smooth Road Ahead for the West Span

OVER ONE MILLION SQUARE FEET REPAVED!

The recently completed deck repaving work on the bridge's West Span represents an important milestone. The objective: to resurface the upper and lower decks of the West Span with a new, highly resilient concrete roadway. The challenge: to accomplish this work with minimum disruptions to commute-hour traffic.

The repaving project started in the spring of 2006, when Caltrans workers and contractor American Civil Constructors (ACC) began replacing over 1.2 million square feet of the bridge deck's road surface. Using state-of-the-art equipment and materials, workers toiled almost entirely at night to minimize disruptions to daytime traffic.

As part of the work, nine expansion joints on the eastbound (lower deck) were reconstructed. Three-quarters of an inch of old roadway surface was removed. Unsound concrete was identified using a method called "chaining." Jack hammers then removed the unsound sections. A shot blaster cleaned and smoothed the surface for the new deck and an epoxy compound, called "methcrylate," was used to provide a bonding surface for the polyester concrete. Finally, the concrete was applied to resurface the deck.

The polyester concrete was made through a blend of polyester resin, sand, and rock aggregate and spread with a highly specialized concrete paver. A continuous mobile mixing plant, specifically designed for this project, produced a long-lasting deck surface that will be resistant to potholes and cracks.

To ensure motorist safety, some of this work required lane and ramp closures, as well as the temporary closure of some city streets to through-traffic. In order to minimize impacts to motorists and project neighbors, much of the repaving work and the resulting lane and street closures were carefully coordinated with seismic safety work on the bridge.

SEISMIC SAFETY WORK ON THE WEST SPAN

Seismic safety work on the West Span entailed a five-year effort to strengthen each section of the double-deck twin suspension spans. Some of the work was strictly a "nuts and bolts" operation, including the addition of nearly one million high-strength bolts; the application of millions of pounds of structural steel for reinforcement; and the replacement of laced cross beams with perforated steel. Piers were encased in heavy concrete jackets and tower legs were secured with additional anchor bolts. Other work involved the application of state-of-the-art devices to absorb, diffuse, or isolate energy during an earthquake.

The work required the combined efforts of more than 1,000 people, including iron workers, welders, and painters, who squeezed between narrow beams or perched on scaffolding high above moving traffic.

The repaving work was completed in October, 2006. Now that the last phase of work has been completed, motorists can enjoy a smoother, safer ride on the West Span.

Photo: Lynne Wilkinson / Caltrans

How to Lift Seventeen Hundred Tons of Steel

A MAJOR MILESTONE WAS ACHIEVED on the East Span in late summer with the lifting of an enormous steel segment called a "transition span," which will connect the Skyway section of the bridge with the yet-to-be-built Self-Anchored Suspension (SAS) span. This segment weighs 1,750 tons and measures 200 feet long by 85 feet wide. It will carry five lanes of westbound traffic.

The operation was one of the heaviest lifts in Caltrans history. A similar hoist was made earlier in the year, when the eastbound transition span, weighing a mere 1,700 tons, was lifted into place. Each of the steel transition segments weighs twice as much as one concrete segment for the Skyway, and is more flexible.

The steel segment was fabricated in Vancouver, Canada and transported by barge to San Francisco Bay, where it was positioned under the East Span. Caltrans and contractors Kiewit FCI Manson and Bigge Crane & Rigging hoisted the segment using winch devices called "strand jacks." The jacks were computer controlled to keep the enormous load balanced as it was hoisted above the water at the rate of one foot per hour.

One end was attached to the Skyway and temporary support towers were positioned under the other end of the segment. These supports will be removed once the segment is joined to the SAS.

The SAS is slated for completion in 2013.

Caltrans District 4 Photography

ONE, TWO, THREE... HEAVE!

Computer controlled "strand jacks" keep the enormous segment balanced as it is hoisted into place.

Builders Selected for the Signature Span

Photo: Noah Berger / MTC/BATA

IT'S OFFICIAL!

American Bridge CEO Robert Luffy (left), Steve Heminger and John Barna look on as Will Kempton signs the letter awarding the SAS contract.

On April 18—the centennial anniversary of the 1906 San Francisco earthquake—an important milestone was achieved to make the East Span a seismically sound bridge of the future. With the stroke of a pen, American Bridge/Fluor Enterprises, a Joint Venture, was named to build the dramatic, single-tower, Self-Anchored Suspension (SAS) span. At $1.43 billion, the award represents the largest public infrastructure contract in California history.

Will Kempton, Chairperson of the Toll Bridge Program Oversight Committee (TBPOC), signed the award letter at a brief ceremony at Pier 30 in San Francisco, appropriately overlooking the suspension towers of the bridge's West Span. Seventy years earlier, American Bridge had played a major role in building that portion of the bridge.

The TBPOC consists of the directors of the California Department of Transportation (Caltrans), the Bay Area Toll Authority (BATA), and the California Transportation Commission (CTC), who each spoke at the ceremony. "We now have all of the approvals that we need to move forward. The bridge's funding is secure and we have a good bid. We're able to start work," said Mr. Kempton.

FINDING THE RIGHT BUILDER

The Joint Venture American Bridge/Fluor Enterprises had submitted the lower of two bids at a public bid opening on March 22, 2006. Their winning bid was even lower than the engineers' estimates for building the bridge. The bids were also evaluated for responsiveness to contractual requirements.

The bid award marked the culmination of an intensive effort to solicit competitive bids and to make key contract improvements. Since the contract was first advertised in August 2005, the TBPOC worked closely with the construction industry to identify contract enhancements and improve competitive bidding. Contract amendments included extending the advertisement period, at the request of the bidders, to allow more time to prepare viable bids and develop construction teams. Additional incentives for contractor cost reductions and minimizing risks to the construction schedule were also provided.

In addition to playing a major role in building the Bay Bridge's West Span, the American Bridge Company has built many other noteworthy suspension bridges across the nation, including the Mackinac Straits Bridge in Michigan and the Verrazano-Narrows Bridge in New York.

THE PRIZE

Artist's rendering of the single-tower, Self-Anchored Suspension (SAS) span.

Stay Informed! Get the Bay Bridge News electronically!

Receive important news, alerts, and bridge information.
*Visit **www.baybridgeinfo.org** and click on the **e-Newsletter** button.*

*To be removed from our mailing list, please call (510) 286-7167 or email us at **info@baybridgeinfo.org.***

The ***Bay Bridge News*** is a production of
The Bay Bridge Public Information Office
311 Burma Road Oakland, CA 94607
Telephone: (510) 286-7167

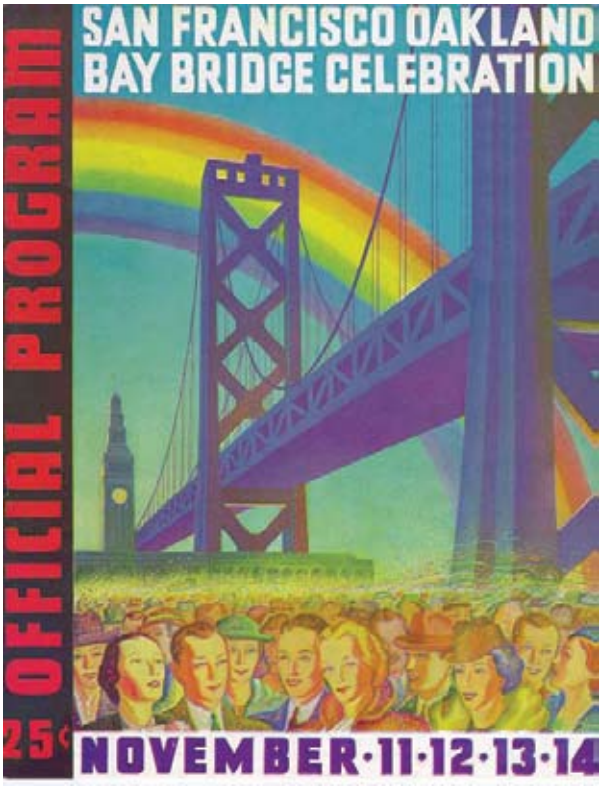
The Bridge Turns Seventy

On November 12, 1936, California Governor Frank Merriam ceremoniously severed the golden chain across the Bay Bridge in Oakland, allowing the first wave of cars to cross over the bay to San Francisco. The opening was the realization of an eighty-year-old dream to span the bay. The ceremony was part of four days of festivities celebrated by thousands in both cities.

Said Governor Merriam, "We dedicate this bridge today to our own use and to future generations, hoping they will receive it as a legacy of great worth and an indication of our desire to serve."

Two hundred Navy planes flying in formation roared by, releasing parachutes with American flags, as sirens blared in Oakland.

It was a bridge that many thought was impossible to build—strong enough to withstand high winds, earthquakes, and the effects of salt air. Although plans for a bridge dated back to California's early days, for many years the project was fraught with political and technical challenges. Plans did not progress until 1932, with the intervention of President Herbert Hoover. With his prompting, the U.S. Reconstruction Finance Corporation agreed to purchase bonds to finance the bridge's construction, supplemented by a State bond.



AN EVENT TO REMEMBER...

The cover of the official 1936 opening-day celebration program.

The groundbreaking for the new bridge occurred on July 9, 1933, during President Hoover's last year in office. Three years and five months later, at the opening ceremonies, he spoke of the bridge in superlatives. It featured the world's largest diameter bore tunnel, the largest and deepest piers, and the longest and heaviest cantilever span in the country.

"That this is the greatest bridge yet constructed in the world requires no repetition by me. Its construction also spans the whole advance in industrial civilization—our discoveries in science, our inventions, our increasing skill. It is the product of hundreds of years of cumulative knowledge."

Leading the motorcade of vehicles across the new bridge, Governor Merriam severed the golden chain awaiting him in San Francisco, and hundreds of fishing boats, yachts and water craft passed below the span. Sirens at the Ferry Building heralded a new era for California and the nation.

Today, 70 years after it first opened to traffic, this great bridge is undergoing a major transformation that will serve us and generations to come.

Happy Birthday, Bay Bridge!

We're making history…again!

A GRAND OPENING...

Dignitaries sever the chain marking the opening of the Bay Bridge.

A Message from Bart Ney, *Bay Bridge Public Information Officer*

As the Bay Bridge quietly turned 70 on November 12, 2006, major progress had been made on the Seismic Safety Projects to keep this critical span serving the public for another seven decades and beyond.

In this issue of the ***Bay Bridge News***, we cover some of the important activities completed in 2006, from major demolition on the West Approach in San Francisco, to the smooth paving of the West Span, and the historic heavy lifting operations that occurred on the East Span's Skyway. While going to press with this issue, the final segments of the Skyway portion of the bridge were being placed. 2007 will see the completion of this part of the East Span, as well as other significant milestones.

We also take a moment to get to know Public Information Officer Margena Wade, whose work has kept countless people informed about progress on the West Approach.

Although a remarkable amount of construction work took place in 2006, the year will also be remembered in Bay Bridge history for the awarding of the contract to construct the world's largest single tower, Self-Anchored Suspension (SAS) span—the signature element of the new Bay Bridge. In the future, you will be able to read more about the SAS right here in the ***Bay Bridge News*** and on our website, ***www.baybridgeinfo.org***, so stay tuned!

Wishing everyone happy and safe travels in the New Year!

Bart Ney
Public Information Officer
San Francisco-Oakland Bay Bridge

Caltrans District 4 Photography

BAY BRIDGE NEWS We're making history.
CALTRANS BAY AREA TOLL AUTHORITY CALIFORNIA TRANSPORTATION COMMISSION

The Bay Bridge Public Information Office
311 Burma Road
Oakland, CA 94607

PRESORT
FIRST CLASS
U.S. POSTAGE
PAID
SAN FRANCISCO, CA
PERMIT NO. 11751

Return Service Requested